depositing a conductive layer over the substrate;

forming a photoresist pattern on the conductive layer;

etching the conductive layer using the photoresist pattern as a mask to form a lower electrode;

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removing the photoresist using an etching gas that is non-reactive with respect to the lower electrode, wherein the etching gas is one of H₂O, a mixture of H₂ and O₂ in which an amount of H₂ is smaller than an amount of O₂, a mixture H₂O, NH₃, and N₂, a mixture of N₂ and NH₃, a mixture of NH₃ and H₂O, and a mixture of N₂ and H₂O; and

forming a dielectric film and an upper electrode on a surface of the lower electrode.

4. (Twice Amended) A method for fabricating a capacitor of a semiconductor device comprising:

depositing a nitride film and an oxide film over a semiconductor substrate, the oxide film being deposited on the nitride film by chemical vapor deposition;

sequentially etching the oxide film and the nitride film using a patterned photoresist as a mask;

forming a conductive region on the semiconductor substrate;

forming an interleaving insulating film having a contact hole therein over the conductive region;

forming a contact plug within the contact hole;

forming insulating film patterns on the interleaving insulating film to expose the contact plug and the interleaving insulating film adjacent to the contact plug;

depositing a barrier film and a first conductive layer on the contact plug and the insulating film patterns;

forming a photoresist over the contact plug between the insulating film patterns;

sequentially removing the first conductive layer and the barrier film on the insulating film patterns using the photoresist as a mask, thereby forming a lower electrode and a barrier film in a U-shape in cross-section;

removing the photoresist using an etching gas that is non-reactive with respect to the lower electrode, wherein the etching gas is one of H₂O, a mixture of H₂ and O₂ in which an amount of H₂ is smaller than an amount of O₂, a mixture H₂O, NH₃, and N₂, a mixture of N₂ and NH₃, a mixture of NH₃ and H₂O, and a mixture of N₂ and H₂O;

removing the insulating film patterns; and

sequentially forming a dielectric film and an upper electrode on the lower electrode and the barrier film.



Please add claims 11 and 12 as follows:

-- 11. A method for fabricating a capacitor of a semiconductor device comprising:

depositing a nitride film and an oxide film over a substrate, the oxide film being deposited on the nitride film by chemical vapor deposition;

sequentially etching the oxide film and the nitride film using a patterned photoresist as a mask;

depositing a conductive layer over the substrate;

forming a photoresist pattern on the conductive layer;

etching the conductive layer using the photoresist pattern as a mask to form a lower electrode;

removing the photoresist using an etching gas that is non-reactive with respect to the lower electrode; and

forming a dielectric film and an upper electrode on a surface of the lower electrode.

12. A method for fabricating a capacitor of a semiconductor device comprising:

depositing a nitride film and an oxide film over a semiconductor substrate, the oxide film being deposited on the nitride film by chemical vapor deposition;

sequentially etching the oxide film and the nitride film using a patterned photoresist as a mask;

forming a conductive region on the semiconductor substrate;

forming an interleaving insulating film having a contact hole therein over the conductive region;

forming a contact plug within the contact hole;

forming insulating film patterns on the interleaving insulating film to expose the contact plug and the interleaving insulating film adjacent to the contact plug;

depositing a barrier film and a first conductive layer on the contact plug and the insulating film patterns;

forming a photoresist over the contact plug between the insulating film patterns;

sequentially removing the first conductive layer and the barrier film on the insulating film patterns using the phötoresist as a mask, thereby forming a lower electrode and a barrier film in a U-shape in cross-section;

removing the photoresist using an etching gas that is non-reactive with respect to the lower electrode;

removing the insulating film patterns; and

sequentially forming a dielectric film and an upper electrode on the lower electrode and the barrier film. --